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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[Docket No. 150902810-7646-01]

RIN 0648-XE167

Listing Endangered or Threatened Species; 90-day Finding on a Petition to List the Winter-Run Puget Sound Chum Salmon in the Nisqually River System and Chambers Creek as a Threatened or Endangered Evolutionarily Significant Unit Under the Endangered Species Act

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of 90-day petition finding.

SUMMARY: We, NMFS, announce a 90-day finding on a petition to list the winter-run Puget Sound chum salmon (*Oncorhynchus keta*) in the Nisqually River system and Chambers Creek as a threatened or endangered evolutionarily significant unit (ESU) under the Endangered Species Act (ESA) and to designate critical habitat concurrently with the listing. We find that the petition and information in our files do not present substantial scientific or commercial information indicating that the winter-run chum salmon from the Nisqually River system and Chambers Creek qualify as an ESU under the ESA. As such, we find that the petition does not present substantial scientific or commercial information indicating that the winter-run chum salmon in the Nisqually River system and Chambers Creek are a “species” eligible for listing under the ESA.

ADDRESSES: Electronic copies of the petition and other materials are available on the NMFS West Coast Region website at www.westcoast.fisheries.noaa.gov.

FOR FURTHER INFORMATION CONTACT: Gary Rule, NMFS West Coast Region, at gary.rule@noaa.gov, (503) 230-5424; or Maggie Miller, NMFS Office of Protected Resources, at margaret.h.miller@noaa.gov, (301) 427-8457.

SUPPLEMENTARY INFORMATION:

Background

On June 29, 2015, we received a petition from Mr. Sam Wright (Olympia, Washington) to list the winter-run Puget Sound chum salmon (*Oncorhynchus keta*) in the Nisqually River system and Chambers Creek as a threatened or endangered ESU under the ESA and to designate critical habitat concurrently with the listing. The petitioner asserts that (1) the designation of these two winter-run chum salmon populations as an ESU is justified because these populations are the only known winter-run chum salmon populations in the world, (2) a diverging trend in abundance between the Chambers Creek population and the fall-run chum salmon populations in southern Puget Sound renders the Nisqually River population as the only viable winter-run population and justifies an ESA listing of the petitioner's proposed ESU as threatened or endangered, and (3) NMFS's "Status Review of Chum Salmon from Washington, Oregon, and California (NOAA Technical Memorandum NMFS-NWFSC-32)" (Johnson et al. 1997) did not address "global warming" or "climate change." Copies of the petition are available upon request (see **ADDRESSES**).

ESA Statutory, Regulatory, Policy Provisions, and Evaluation Framework

Section 4(b)(3)(A) of the ESA of 1973, as amended (16 U.S.C. 1531 et seq.), requires, to the maximum extent practicable, that within 90 days of receipt of a petition to list a species as threatened or endangered, the Secretary of Commerce make a finding on whether that petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted, and to promptly publish such finding in the **Federal Register** (16 U.S.C. 1533(b)(3)(A)). When it is found that substantial scientific or commercial information in a petition indicates the petitioned action may be warranted (a “positive 90-day finding”), we are required to promptly commence a review of the status of the species concerned during which we will conduct a comprehensive review of the best available scientific and commercial information. In such cases, we conclude the review with a finding as to whether, in fact, the petitioned action is warranted within 12 months of receipt of the petition. Because the finding at the 12-month stage is based on a more thorough review of the available information, as compared to the narrow scope of review at the 90-day stage, a “may be warranted” finding does not prejudice the outcome of the status review.

Under the ESA, a listing determination may address a species, which is defined to also include subspecies and, for any vertebrate species, any distinct population segment (DPS) that interbreeds when mature (16 U.S.C. 1532(16)). To identify the proper taxonomic unit for consideration in a salmon listing determination, we apply our Policy on Applying the Definition of Species under the ESA to Pacific Salmon (ESU Policy) (56 FR 58612; November 20, 1991). Under this policy, populations of salmon substantially reproductively isolated from other conspecific populations and representing an important component in the evolutionary legacy of the biological species are considered to be an

ESU. In our listing determinations for Pacific salmon under the ESA, we have treated an ESU as constituting a DPS, and hence a “species,” under the ESA. A species, subspecies, or ESU is “endangered” if it is in danger of extinction throughout all or a significant portion of its range, and “threatened” if it is likely to become endangered within the foreseeable future throughout all or a significant portion of its range (ESA sections 3(6) and 3(20), respectively, 16 U.S.C. 1532(6) and (20)). Pursuant to the ESA and our implementing regulations, we determine whether species are threatened or endangered based on any one or a combination of the following five section 4(a)(1) factors: the present or threatened destruction, modification, or curtailment of habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; disease or predation; inadequacy of existing regulatory mechanisms; and any other natural or manmade factors affecting the species’ existence (16 U.S.C. 1533(a)(1), 50 CFR 424.11(c)).

At the 90-day finding stage, we evaluate the petitioners’ request based upon the information in the petition including its references and the information readily available in our files. We do not conduct additional research, and we do not solicit information from parties outside the agency to help us in evaluating the petition. We will accept the petitioners’ sources and characterizations of the information presented if they appear to be based on accepted scientific principles, unless we have specific information in our files that indicates the petition’s information is incorrect, unreliable, obsolete, or otherwise irrelevant to the requested action. Information that is susceptible to more than one interpretation or that is contradicted by other available information will not be dismissed at the 90-day finding stage, so long as it is reliable and a reasonable person

would conclude it supports the petitioners' assertions. In other words, conclusive information indicating the species may meet the ESA's requirements for listing is not required to make a positive 90-day finding. We will not conclude that a lack of specific information alone necessitates a negative 90-day finding if a reasonable person would conclude that the unknown information itself suggests the species may be at risk of extinction presently or within the foreseeable future.

To make a 90-day finding on a petition to list a species, we evaluate whether the petition presents substantial scientific or commercial information indicating the subject species may be either threatened or endangered, as defined by the ESA. ESA-implementing regulations issued jointly by NMFS and U.S. Fish and Wildlife Service (50 CFR 424.14(i)) define "substantial information" in the context of reviewing a petition to list, delist, or reclassify a species as credible scientific information in support of the petition's claims such that a reasonable person conducting an impartial scientific review would conclude that the revision proposed in the petition may be warranted. Conclusions drawn in the petition without the support of credible scientific information will not be considered "substantial information." The "substantial scientific or commercial information" standard must be applied in light of any prior reviews or findings we have made on the listing status of the species that is the subject of the petition. Where we have already conducted a finding on, or review of, the listing status of that species (whether in response to a petition or on our own initiative), we will evaluate any petition received thereafter seeking to list, delist, or reclassify that species to determine whether a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted despite the previous review or finding.

Where the prior review resulted in a final agency action, a petitioned action generally would not be considered to present substantial scientific and commercial information indicating that the action may be warranted unless the petition provides new information not previously considered.

In evaluating the petition, we first evaluate whether the information presented in the petition, along with the information readily available in our files, indicates that the petitioned entity constitutes a “species” eligible for listing under the ESA. Next, we evaluate whether the information indicates that the species faces an extinction risk that is cause for concern; this may be indicated in information expressly discussing the species’ status and trends, or in information describing impacts and threats to the species. We evaluate any information on specific demographic factors pertinent to evaluating extinction risk for the species (e.g., population abundance and trends, productivity, spatial structure, age structure, sex ratio, diversity, current and historical range, habitat integrity or fragmentation), and the potential contribution of identified demographic risks to extinction risk for the species. We then evaluate the potential links between these demographic risks and the causative impacts and threats identified in section 4(a)(1).

Information presented on impacts or threats should be specific to the species and should reasonably suggest that one or more of these factors may be operative threats that act or have acted on the species to the point that it may warrant protection under the ESA. Broad statements about generalized threats to the species, or identification of factors that could negatively impact a species, do not constitute substantial information indicating that listing may be warranted. We look for information indicating that not only is the

particular species exposed to a factor, but that the species may be responding in a negative fashion; then we assess the potential significance of that negative response.

Many petitions identify risk classifications made by nongovernmental organizations, such as the International Union on the Conservation of Nature (IUCN), the American Fisheries Society, or NatureServe, as evidence of extinction risk for a species. Risk classifications by such organizations or made under other Federal or state statutes may be informative, but such classification alone will not alone provide sufficient basis for a positive 90-day finding under the ESA. For example, as explained by NatureServe, their assessments of a species' conservation status do "not constitute a recommendation by NatureServe for listing under the U.S. Endangered Species Act" because NatureServe assessments "have different criteria, evidence requirements, purposes and taxonomic coverage than government lists of endangered and threatened species, and therefore these two types of lists should not be expected to coincide"

(<http://www.natureserve.org/prodServices/pdf/NatureServeStatusAssessmentsListing-Dec%202008.pdf>). Additionally, species classifications under IUCN and the ESA are not equivalent; data standards, criteria used to evaluate species, and treatment of uncertainty are also not necessarily the same. Thus, when a petition cites such classifications, we will evaluate the source of information that the classification is based upon in light of the standards on extinction risk and impacts or threats discussed above.

Previous Reviews of Puget Sound/Strait of Georgia Chum Salmon Under the ESA

On March 14, 1994, NMFS was petitioned by the Professional Resources Organization-Salmon (PRO-Salmon) to list Washington's Hood Canal, Discovery Bay, and Sequim Bay summer-run chum salmon (*Oncorhynchus keta*) as threatened or

endangered species under the ESA (PRO-Salmon 1994). A second petition, received April 4, 1994, from the “Save Allison Springs” Citizens Committee (1994), requested listing of fall chum salmon found in the following southern Puget Sound streams or bays: Allison Springs, McLane Creek, tributaries of McLane Creek (Swift Creek and Beatty Creek), Perry Creek, and the southern section of Mud Bay/Eld Inlet. A third petition, received by NMFS on May 20, 1994, was submitted by Trout Unlimited (1994) and requested listing the Hood Canal summer chum. As the result of these three petitions, NMFS assembled a Biological Review Team (BRT) and initiated an ESA status review of all chum salmon populations in Washington, Oregon, and California. In December 1997, the status review was published as Johnson et al. (1997). In the status review, the BRT identified four ESUs – the Puget Sound/Strait of Georgia ESU, Hood Canal summer-run ESU, Pacific Coast ESU, and Columbia River ESU. The winter-run chum salmon populations in the Nisqually River system and Chambers Creek were identified as part of the Puget Sound/Strait of Georgia ESU. Despite these populations being one of the more genetically distinct populations in Puget Sound, the BRT (1) did not consider those differences distinct enough to warrant designating them as a separate ESU and (2) determined that these populations, along with the summer-run Puget Sound populations, reflected patterns of diversity within a large and complex ESU. The BRT determined that the Puget Sound/Strait of Georgia chum salmon ESU was not presently at risk of extinction nor was it likely to become endangered in the foreseeable future throughout all or a significant portion of its range. The BRT found that the (1) the Puget Sound/Strait of Georgia chum salmon ESU’s abundance was at or near the historical annual run levels of over one million fish, (2) the majority of the populations had stable or increasing

population trends, and (3) all populations with statistically significant trends were increasing. The Pacific Coast chum salmon ESU, with its large geographic area and considerable diversity, was also not considered warranted for ESA listing. The BRT, however, determined that the Hood Canal summer-run chum salmon ESU and Columbia River chum salmon ESU are likely to become endangered in the foreseeable future if present conditions continue. NMFS listed these ESUs as threatened species under the ESA on March 25, 1999 (64 FR 14507).

Analysis of Petition and Information Readily Available in NMFS Files

As mentioned above, in analyzing the request of the petitioner, we first evaluate whether the information presented in the petition, along with information readily available in our files, indicates that the petitioned entity constitutes a “species” eligible for listing under the ESA. Because the petition specifically requests listing of an ESU, we evaluate whether the information indicates that the petitioned entities, the winter-run Puget Sound chum salmon in the Nisqually River system and Chambers Creek, constitute an ESU pursuant to our ESU Policy.

When identifying an ESU, our ESU Policy (56 FR 58612; November 20, 1991) stipulates two elements that must be considered: (1) it must be substantially reproductively isolated from other nonspecific population units, and (2) it must represent an important component in the evolutionary legacy of the species. In terms of reproductive isolation, the ESU Policy states that reproductive isolation does not have to be absolute, but it must be strong enough to permit evolutionarily important differences to accrue in different population units. Insights into the extent of reproductive isolation can be provided by movements of tagged fish, recolonization rates of other populations,

measurements of genetic differences between population, and evaluations of the efficacy of natural barriers. In terms of evolutionary legacy of the species, that criterion would be met if the population contributed substantially to the ecological/genetic diversity of the species as a whole. To make that determination, the following questions are relevant: Is the population genetically distinct from other conspecific populations (genetic component)? Does the population occupy unusual or distinctive habitat (ecological component)? Does the population show evidence of unusual or distinctive adaptation to its environment (life-history component)?

In evaluating this petition, we looked for information to suggest that the petitioned entities, the winter-run Puget Sound chum salmon in the Nisqually River system and Chambers Creek populations, may qualify as an ESU under both the reproductive isolation and evolutionary legacy of the species criteria of our ESU Policy. Our evaluation is discussed below.

Qualification of the winter-run Puget Sound chum salmon in the Nisqually River system and Chambers Creek as an ESU

The petitioner asserts that (1) the designation of these two winter-run chum salmon populations as an ESU is justified because they are the only known winter-run chum salmon populations in the world, (2) a diverging trend in abundance between the Chambers Creek population and the fall-run chum salmon populations in southern Puget Sound renders the Nisqually River population as the only viable winter-run population and justifies an ESA listing of the petitioner's proposed ESU as threatened or endangered, and (3) Johnson et al. (1997) did not address "global warming" or "climate change." To make the argument for identifying these two populations as an ESU, the

petitioner relies almost exclusively on information from Johnson et al. (1997). The only other information that the petitioner presents is abundance data for the Chambers Creek (1968 through 2008) and Nisqually River (1968 through 2013) winter-run chum salmon populations. To direct our decision, we will first analyze the petition's assertion that these two winter-run chum salmon populations are a separate ESU; and if we determine that to be true, we will then analyze the other two assertions described above.

As stated previously, NMFS received three petitions in 1994 to list several populations of chum salmon in Puget Sound. In response to these petitions and to address general concerns about the species, NMFS assembled a BRT to conduct a status review of chum salmon to identify the ESUs and determine their statuses throughout the Pacific Northwest. The findings were published as Johnson et al. (1997). Based upon genetic, ecological, and life-history components, the BRT was able to analyze and group West Coast chum salmon populations into four different chum salmon ESUs. For these ESUs, the BRT analyzed the following available information.

For the genetic component, the BRT analyzed the genetic variability at 39 polymorphic loci in 153 samples collected from 105 locations in southern British Columbia, Washington, and Oregon (Phelps et al. 1994; Johnson et al. 1997). Seventy-two of those 105 locations were from Puget Sound including the Chambers Creek and Nisqually River winter-run populations. From that analysis, the Hood Canal and Strait of Juan de Fuca summer-run chum salmon were determined to be genetically distinct from the other Puget Sound populations and were described as the Hood Canal summer-run ESU. Genetically, the remaining Puget Sound and Hood Canal locations were clustered together with the winter-run chum salmon as genetic outliers most closely related to the

fall-run Hood Canal and northern Puget Sound populations. Additional samples and analysis (Phelps 1995) resulted in three distinct clusters of samples: (1) summer-run chum salmon of Hood Canal and Strait of Juan de Fuca; (2) Puget Sound fall-run and southern Puget Sound winter- and summer-run chum salmon; and (3) Strait of Juan de Fuca, coastal Washington, and Oregon fall-run chum salmon (Johnson et al. 1997). Recently, Waples (2015) analyzed genetic diversity and population structure from 174 chum salmon individuals at 10 Puget Sound/Strait of Georgia locations – including one Hood Canal summer-run ESU location (Hamma Hamma River), the Nisqually River winter-run location, and eight other Puget Sound/Strait of Georgia locations. In a F_{ST} matrix and phylogenetic tree analysis, the Hamma Hamma River location was most genetically diverse followed by the Nisqually River winter-run. A principle component analysis (PCA) evaluating the genetic relationships between the individuals from all 10 locations showed that the Hamma Hamma River location was the most genetically distinct with the other nine locations clustered together (including the Nisqually River winter-run). In response to this current petition, NMFS’s Northwest Fishery Science Center (NWFSC) examined the available data concerning the winter-run chum salmon from the Nisqually River system and Chambers Creek. An analysis of these data (J. Hard, Supervisory Research Fishery Biologist, NWFSC, email September 2, 2015) confirmed the earlier conclusions from Johnson et al. (1997) that “the winter-run fish cluster closely with fall-run fish in Puget Sound and Hood Canal” and that “there is no clear genetic evidence to support the idea that the winter-run chum salmon in Puget Sound are substantially reproductively isolated from other chum salmon populations in southern Puget Sound.”

In examining the ecological component, neither the Nisqually River nor Chambers Creek watersheds are isolated geographically or reproductively from other chum salmon populations in southern Puget Sound; therefore, it does not qualify as an ESU. While there is no need to determine whether this cluster represents an important component in the evolutionary legacy of the species (2nd criterion of the ESU Policy), we include this information in order to be thorough. Both the Nisqually River and Chambers Creek watersheds have supported both summer- and fall-run chum salmon in the past, along with winter-run chum salmon (Johnson et al. 1997), so there is nothing unique preventing these watersheds from supporting multiple chum salmon runs. No additional ecological information was provided by the petitioner nor found in our files.

For the life history component, Johnson et al. (1997) stated that “the distinctiveness of the winter-run populations was not sufficient to designate these populations as a separate ESU. Rather, the team concluded that these populations, along with the summer-run populations in southern Puget Sound, reflect patterns of diversity within a relatively large and complex ESU.” No additional life history information was provided by the petitioner nor found in our files; therefore, we find the conclusions in Johnson et al. (1997) remain valid. We conclude that the winter-run cluster does not represent an important component in the evolutionary legacy of the species.

After reviewing the genetic, ecological, and life history components of these two winter-run chum salmon populations, we have concluded that these populations are not distinct from the other populations within the Puget Sound/Strait of Georgia ESU and do not meet our criteria for identification as a separate ESU. Therefore, based upon the

information from the petitioner and the data found in our files, we conclude that these populations are not a separate ESU and do not qualify for listing under the ESA.

Other Information Provided by the Petitioner

The petitioner also provided additional information on abundance for the two winter-run chum salmon populations and climate change. Since we determined that these two winter-run chum salmon populations do not qualify as an ESU, these two items were not analyzed.

Petition Finding

After reviewing the information contained in the petition, as well as information readily available in our files, and based on the above analysis, we conclude that the petition does not present substantial scientific or commercial information indicating that the petitioned action of identifying the winter-run Puget Sound chum salmon (*Oncorhynchus keta*) in the Nisqually River system and Chambers Creek as an ESU may be warranted. As such, we find that the petition does not present substantial scientific or commercial information indicating that the winter-run Puget Sound chum salmon in the Nisqually River system and Chambers Creek populations are “species” eligible for listing under the ESA.

References Cited

The complete citations for the references used in this document can be obtained by contacting NMFS (See **FOR FURTHER INFORMATION CONTACT**) or on our

website at: www.westcoast.fisheries.noaa.gov.

Authority: The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: July 13, 2017.

Samuel D. Rauch, III,

Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service.

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